The Effect of Endotracheal Intubation Checklists: A Systematic Review

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Background

Endotracheal intubation (EI) is a common, lifesaving intervention for critically ill patients. In contrast to those performed in operating theatres, intubations performed in acute care settings carry a higher risk of patient harm. This procedure carries significant risk, and the NAP4 report, a study examining critical incidents during intubation, identified human factors as the cause of most critical incidents.

The implementation of checklists has been shown to improve outcomes in a variety of clinical settings. Plausible benefits of checklists include standardizing the procedure, establishing a check for proper equipment, and ensuring a shared mental model before the start of the procedure to create a collaborative, communicative environment. Checklists as a tool to improve the safety of intubation have been studied previously with variable success.

The verdict on checklists for EI remains unclear due to this heterogeneity of the data with different clinical settings, types of centre and types of checklists implemented. The purpose of this review is to review the available literature pertaining to intubation checklists, evaluate the interventions employed in checklists, their uptake, and effect on patient safety.

Methods

This study was designed and reported in accordance with PRISMA guidelines. A search will be completed using both Ovid Medline and Cochrane with the aid of a research librarian.

Included studies will assess adult patients in ICU, ward or emergency department requiring endotracheal intubation for any indication. They will assess an intubation checklist or bundle protocol. Studies included will be observational cohort studies, case series, case-controls or randomized trials. Abstracts will be excluded

Titles and abstracts retrieved using the search strategy will be screened independently by two review authors to identify articles that meet the eligibility criteria outlined above using systematic review software (Covidence).

Two independent authors will assess risk of bias of each of the included studies. A data extraction template has been defined a priori. Tabulated data will present firstly study demographics. A second table will present the primary and secondary outcome measures.

Extracted numerical data from the selected studies will be presented as extracted with mean and confidence intervals. Where appropriate or possible, data will be pooled, and odds ratios will be calculated with 95% confidence intervals. Qualitative comparisons will be made using the items included in the published checklist to ascertain similarities or differences between studies and whether these differences may have contributed to the primary or secondary outcomes.

Results
Pending

Discussion
Pending